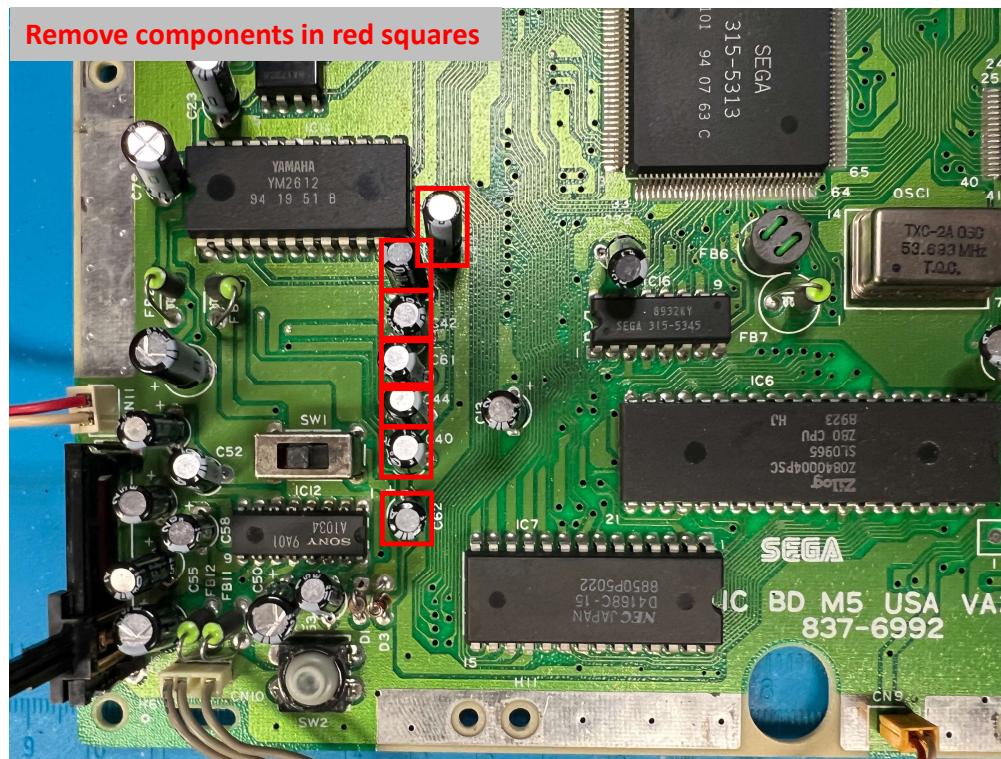


Model 1 VA2-VA6 (VA2 Shown)



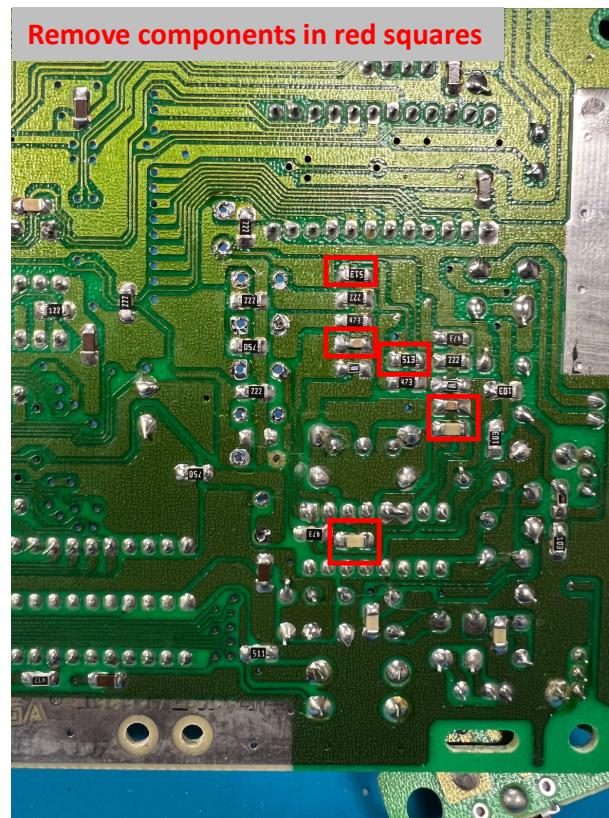
M1VA2-6 – Audio – Component Removal

Note for VA3:
Since it is the 3BP target audio profile, it is also possible to simply tap the preamp audio. Do not remove the capacitors and jump to "VA3 Audio Instructions" for the audio portion.



M1VA2-6 – Audio – Component Removal for Headphone Restoration

VA3 alternate install:
do not remove
components, jump to
"VA3 Audio
Instructions" for the
audio portion.



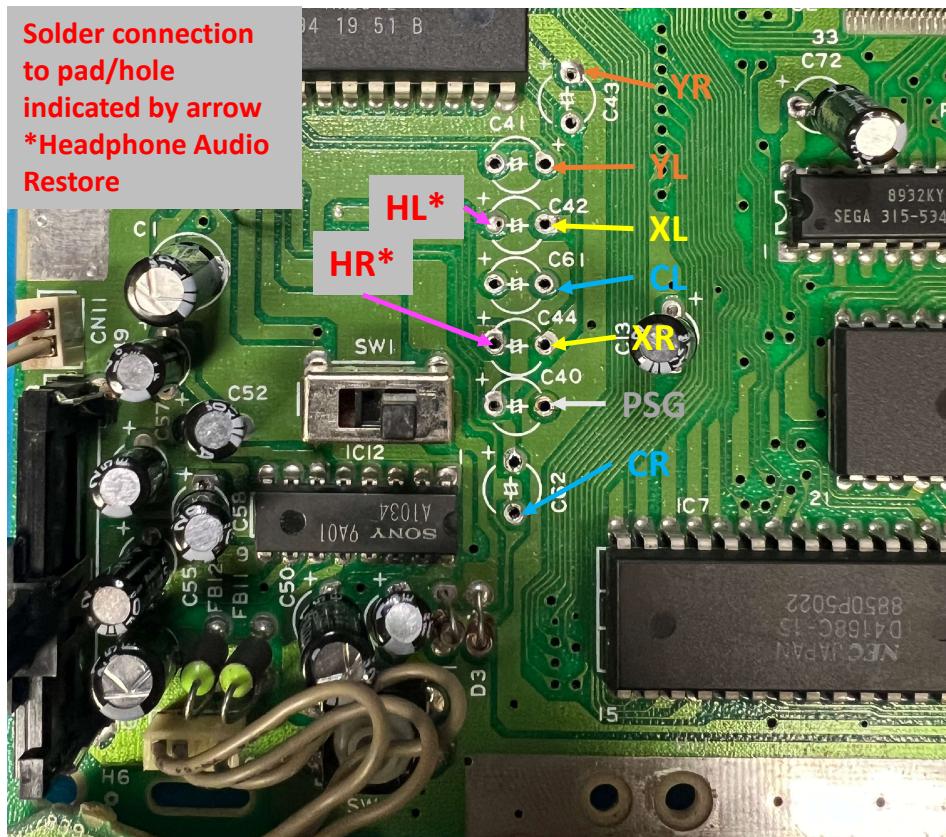
Components on VA2 and VA3 have no labels on the bottom.

Different revisions may arrange the components slightly differently, so verify the resistor values match and remove the corresponding components.

VA5/6 Reference Designators are:

- C45, C46, C47, C48
- R34, 37 (PSG resistors)

M1VA2-VA6 – Audio – Signal Points

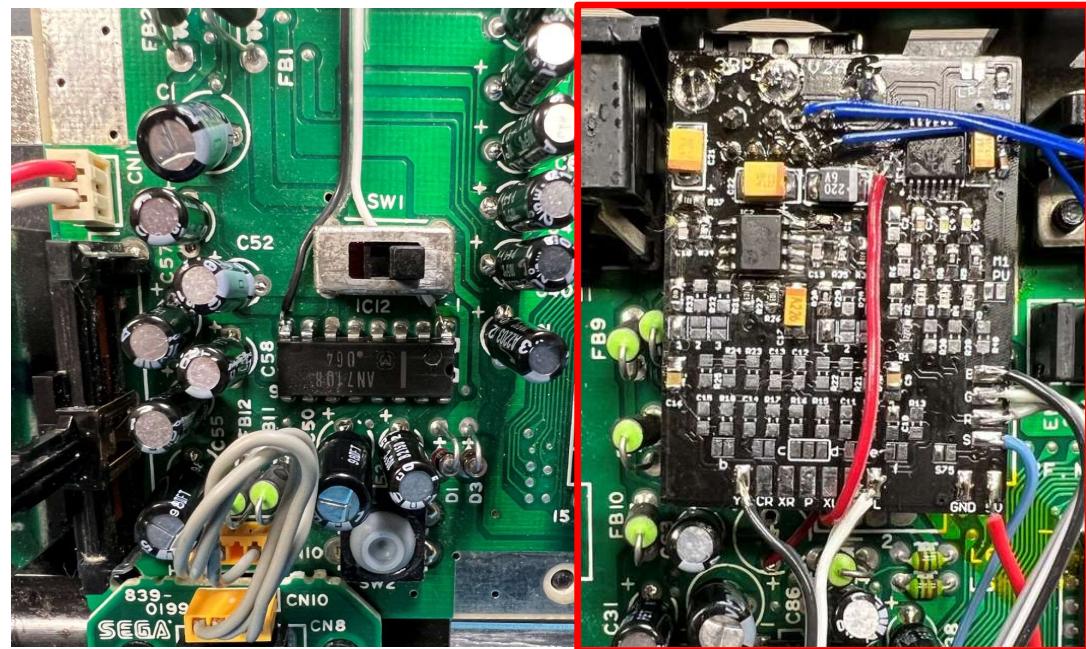


Note: Previous versions of the 3BP V2+ included 100K resistors and users were advised to solder to C43- (Right) and C41- (Left).

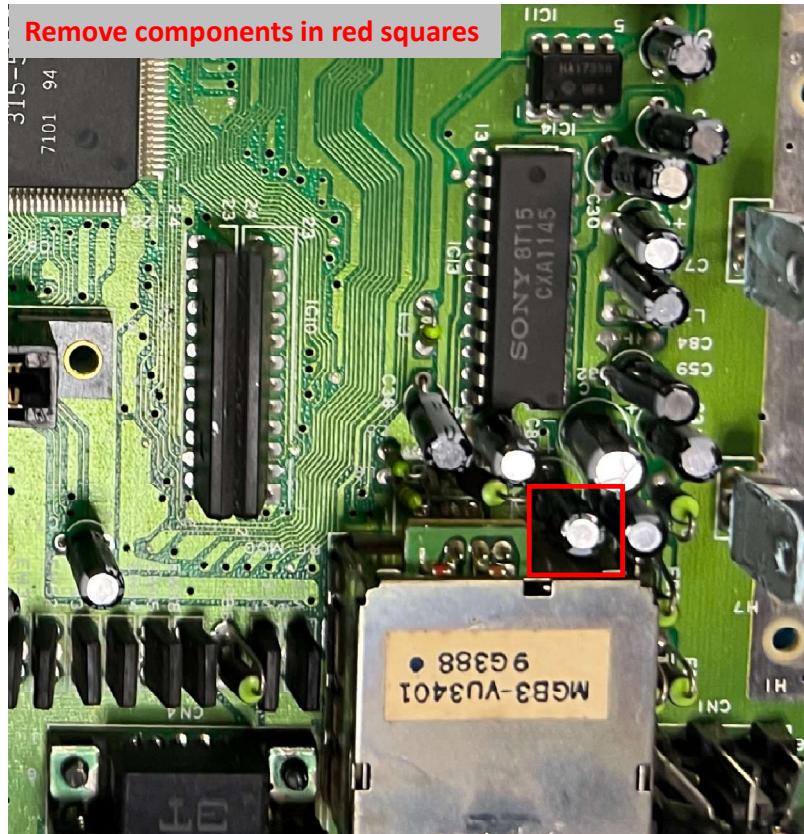
The HR/HL resistors have been changed to 10K. All users can solder HR/HL to C44+ and C42+ respectively without any additional components required.

M1VA3 – Audio Instructions

- Do not remove any of the electrolytic capacitors on the mainboard for audio
- On 3BP:
 - Remove C18/C19
 - Solder “2” jumpers
- On Main board
 - Solder IC 12 pin 8 to YR pad, pin 1 to YL pad
- Continue to Video Instructions



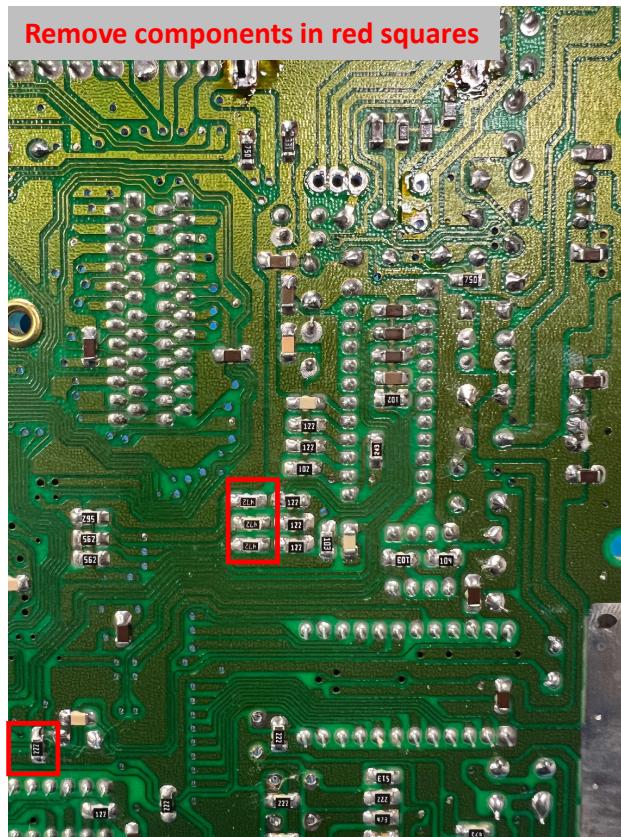
M1VA2-6 – Video – Component Removal



Remove C86 (AC coupling capacitor for composite to the RF modulator)

M1VA2-6 – Video – Component Removal

2.2K Resistor is the pull-up for CSYNC. The 3BP also has one, so one must be removed to avoid doubly loading the VDP.



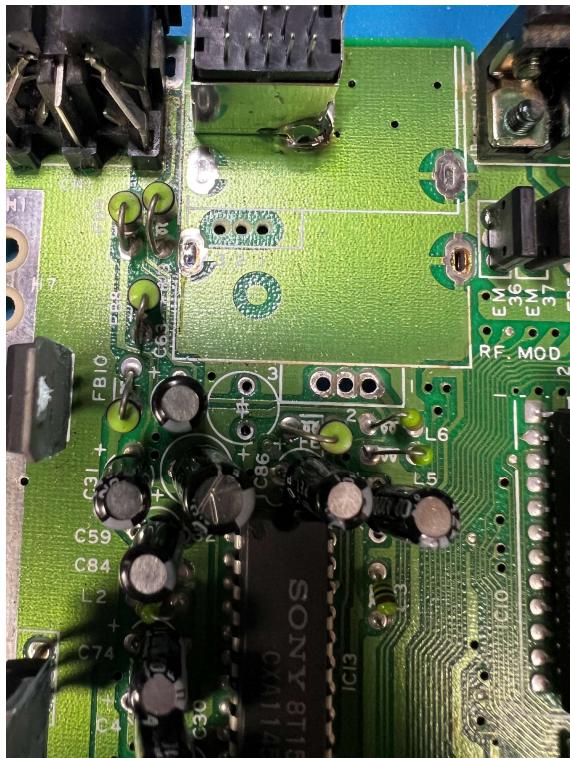
Components on VA2 and VA3 may have no labels on the bottom.

VA5/6 Reference Designators are:

- R17, R19, R21 (RGB)
- R16 (CSYNC)

M1VA2-6 – DIN Installation

Carefully scrape away solder mask where the RF adapter once was. It is recommended to scrape a U shape to assist in alignment. Solder the 9 Pin DIN and align as shown.



Model 1 VA2-6 RGB VDP Pins

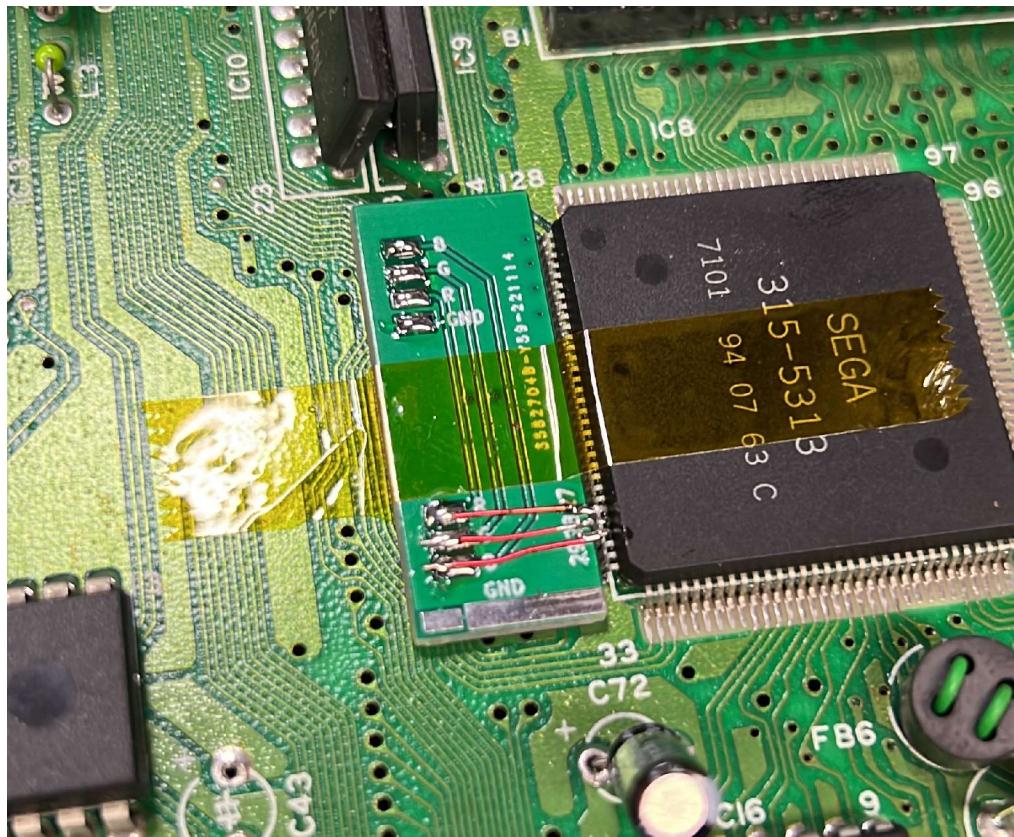
Lift pins 27-29 on the 315-5313 VDP. Wires may be directly soldered from the VDP to the 3BP, but for best results, use a relief board as shown.

Pin 27 – R

Pin 28 – G

Pin 29 – B

If using a relief board, solder GND to the (-) side of C72 (or other nearby GND point)



Model 1 VA2-6 CSYNC and 5V

Csync may be obtained from Pin 10 of the CXA1145 encoder. See the black wire shown.

**Different revisions have the CXA encoder rotated 180 degrees.
Verify the orientation of the encoder on your board before soldering to it.**

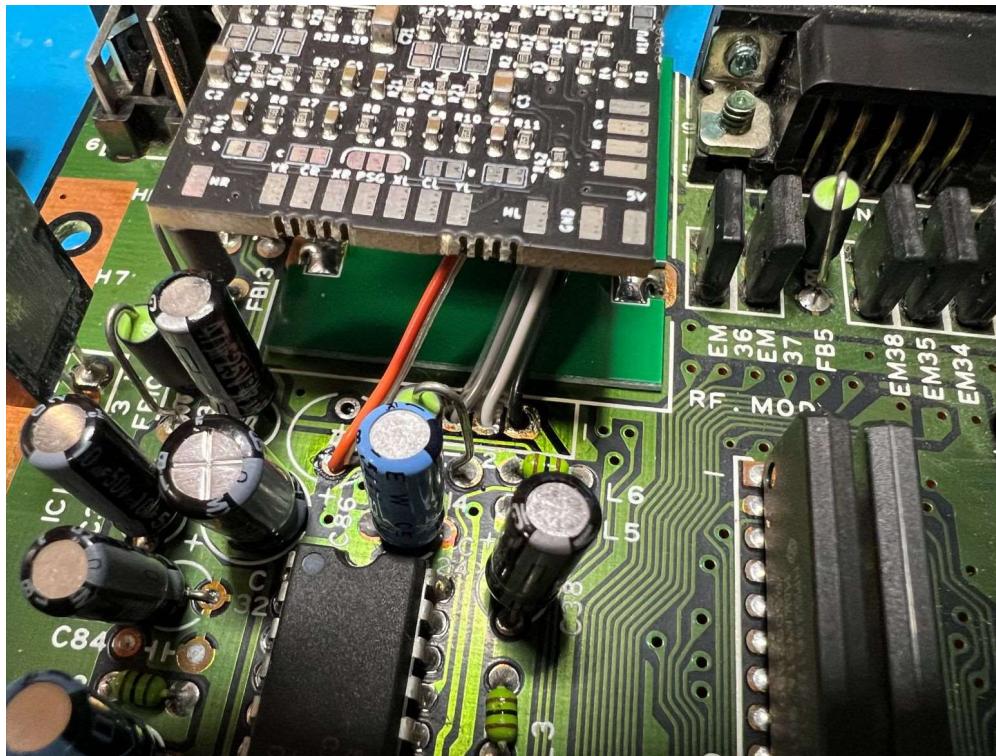


Recommended 5V source is directly from the regulator (usually marked pin 2 on the board). See the dark blue wire in the image. The pin should be the “front” most pin (middle is ground, the other is power supply input)

CVBS Restoration – Routing – 1

If restoring CVBS, solder the CVBS output wire to C86(+). (3BPV2+) Solder wires to R0/G0/B0 and route through the empty holes where the RF modulator used to be. See Legacy 3BP routing page for previous 3BP revisions.

Solder the CVBS wire from C86(+) to the CV pad on the 3BPV2+.



For Legacy 3BP V2:

Remove 3BP R11 (75 ohm near IC1) and solder the wire from C86(+) to the + side of 3BP C8 (closest to the “75” DIN pin)

CVBS Restoration – Routing – 2

Solder the RGB wires to the capacitors that are connected to the 1.2K resistors. The other side of the capacitor connects to Pins 2-4.

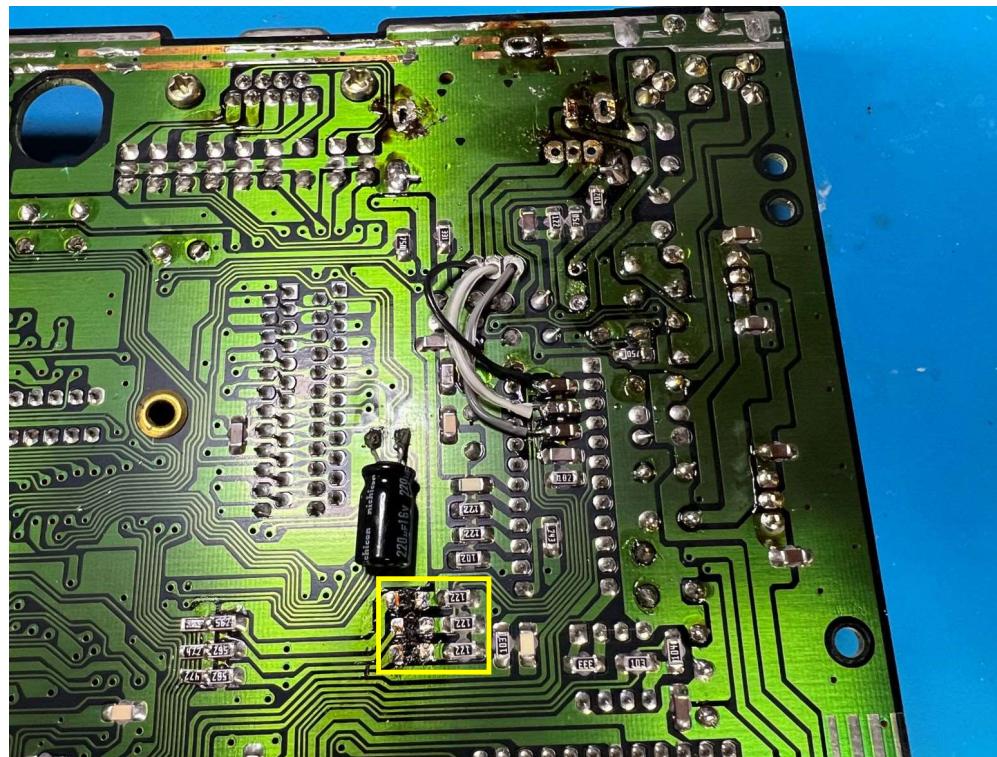
Wires may also be soldered to the 1.2K resistors next to R17/19/21 pads, but a shorter length is optimal to avoid noise from VRAM.

Verify the resistor by checking continuity.

Pin 2 – R

Pin 3 – G

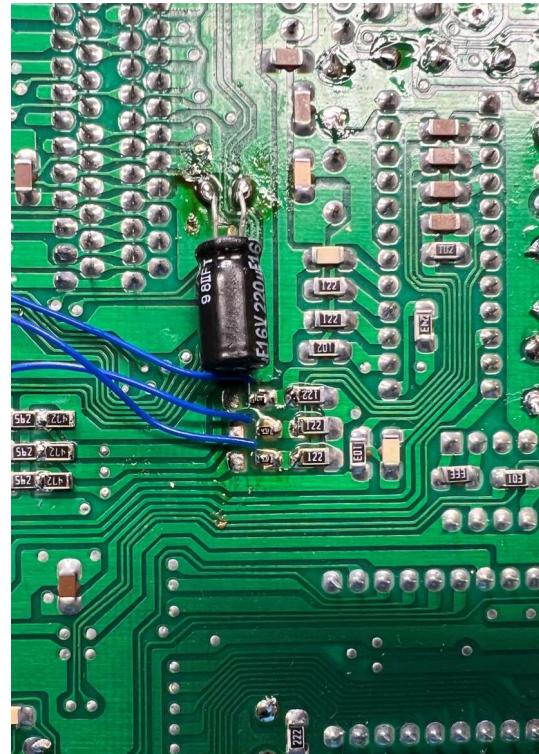
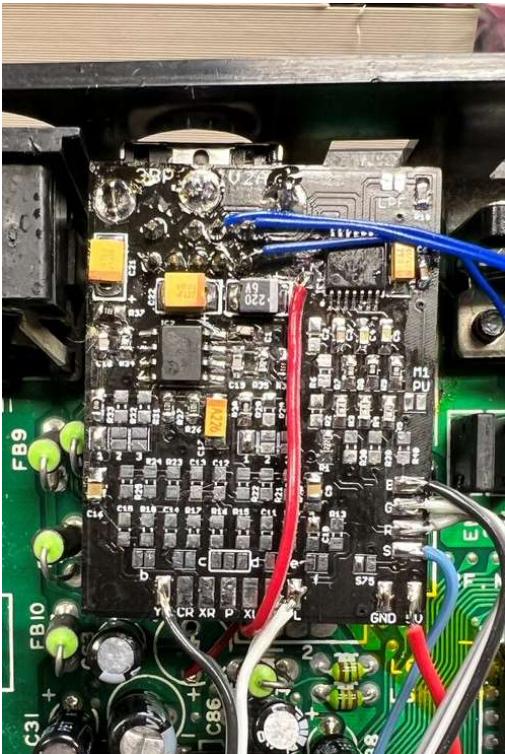
Pin 4 – B



**PICTURE IS FOR
REFERENCE ONLY.**

**Different revisions have
the CXA encoder rotated
180 degrees. Therefore,
verify the orientation of
the encoder on your board
before soldering to it.**

CVBS Restoration – Routing – 3 (Legacy 3BP)



Solder wires
directly to the DIN
pins. Pinout:

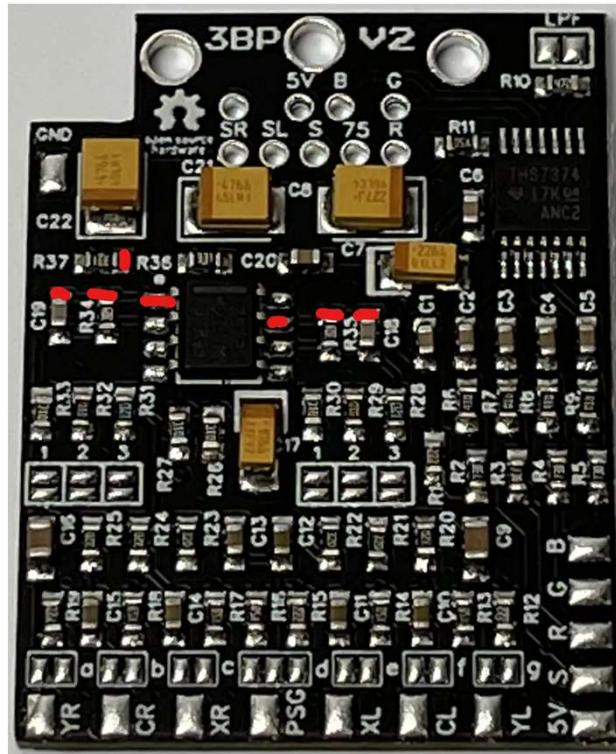
B G
R

470-511 ohm
resistors can be
soldered to the
right side pad of
R17/19/21 and
wired as shown.

Legacy 3BP Headphone Restore

Solder wires from the locations indicated to the HR and HL signal spots indicated on the “Audio Signal Points” page (C44+ and C42+). Components on the left are for the “Right” audio and right side components correspond to “Left” audio.

The Right output signal comes from Pin 1 of IC2, while Left comes from Pin 7 on IC2.



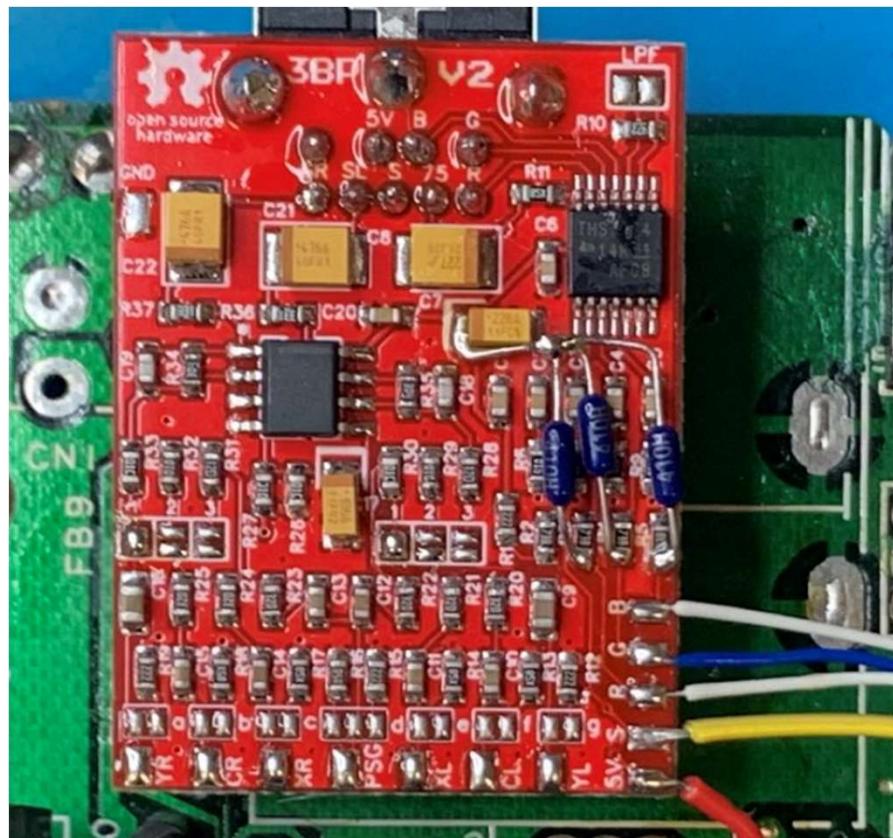
M1VA2-6 – 3BP Jumpers and Wrap-Up

- *****If re-using the RF shield, remember to bend/cut any points that may contact the 3BP*****
- Use the following jumpers:
 - S75 – Only if CVBS restore is not desired
 - 1 (Both left and right jumpers)
 - M1PU (V2A, V2+) – see next slide for original V2
- The other jumpers are unnecessary for these models using this guide.

M1VA2-6 – RGB Collector Resistors on 3BP V2

When lifting the RGB pins of the VDP, they are no longer connected to the 5V collector resistors, which are necessary for proper function. The V2+ variant has the “M1PU” jumper to restore this.

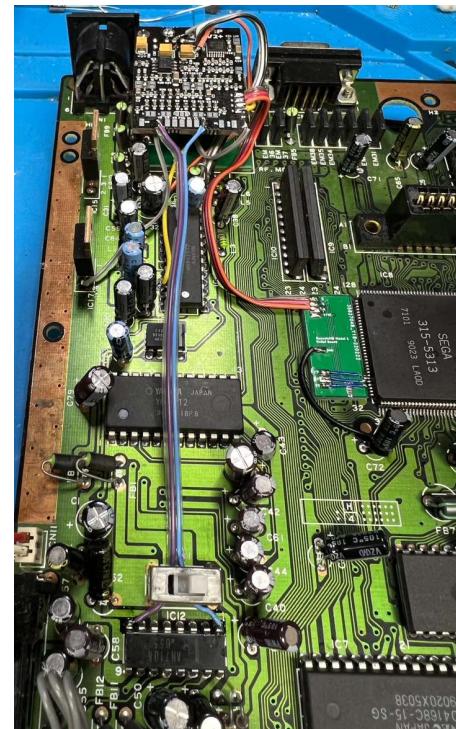
If using the original 3BP V2, 5.6K resistors need to be connected between each of the RGB lines and 5V. One method is shown here using leaded resistors.



Completed Installation



VA2-6 (Excl. VA3) Completed 3BP installation



VA3 Completed 3BP installation